

WHAT IS CLAIMED IS

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1. A circuit for a power amplifier which amplifies and outputs an audio signal by amplifying an input audio signal using first and second differential circuits, and driving a push-pull output transistor with the outputs from the first and second differential circuits, the circuit comprising:
  - a signal generating part generating a disconnection timing signal for disconnecting a bias current reducing an activation current of each of the first and second differential circuits based on a switch control signal, and a positive feedback loop in each of the first and second differential circuits;
  - 20 a switch part being disposed in the positive feedback loops of each of the first and second differential circuits, and disconnecting the positive feedback loops in response to the disconnection timing signal; and
  - 25 a bias part stopping the operation of the first and second differential circuits by reducing the activation currents of the first and second differential circuits, respectively, by reduction of the bias currents.

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2. The circuit as claimed in claim 1,  
wherein the signal generating part comprises:

an integrator integrating the switch  
control signal so that a waveform of the signal is  
5 inclined;

a variable bias circuit decreasing the  
bias current according to the inclined waveform; and

10 a comparator generating the disconnection  
timing signal by comparing the inclined waveform  
with a reference electric potential.

15 3. The circuit as claimed in claim 2,  
wherein the signal generating part further  
comprises:

an inverse circuit reversing the inclined  
waveform; and

20 a second comparator, connecting to the  
positive feedback loops of the first and second  
differential circuits, generating a switch signal by  
comparing the reversed inclined waveform with  
another reference electric potential;

25 wherein the variable bias circuit outputs  
a first bias current which decreases, and a second  
bias current which increases according to the  
inclined waveform and the reversed inclined waveform,  
respectively.

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4. The circuit as claimed in claim 1,  
wherein the circuit is a semiconductor device.

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5. The circuit as claimed in claim 2,  
wherein the circuit is a semiconductor device.

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6. The circuit as claimed in claim 3,  
wherein the circuit is a semiconductor device.

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